



USCG photo by Gordon I. Peterson

THE INTEGRATED DEEPWATER SYSTEM

Delivering a More Ready, Aware, and Responsive Coast Guard

By Rear Adm. Gary T. Blore, USCG

During his 2006 State of the Union Address on Jan. 31, President Bush reminded the nation that homeland security will remain a top national priority for what is now recognized as the “long war” against international terrorists. “Our country must also remain on the offensive against terrorism here at home,” the president said. “The enemy has not lost the desire or capability to attack us.”

For this reason and many others, the president’s fiscal year 2007 (FY07) budget request of \$934.4 million to advance the Deepwater Program’s modernization, conversion, and recapitalization of the Coast Guard’s aging legacy fleet of cutters, aircraft, and selected systems is an especially important investment. This funding will enable continued implementation of the revised post-9/11 Deepwater plan (approved by the Department of Homeland Security in 2005) by acquiring new assets while sustaining, modernizing, and converting selected legacy assets to increase their useful service lives.

New or modernized Deepwater platforms, working as a system, will play an increasingly important role in reducing the risk of terrorist attacks being launched from the maritime domain against the United States.

In short, the Deepwater Program is very much about delivering the more capable and interoperable assets and systems that will directly support Coast Guard operational forces. It will enable commanding officers to execute their demanding missions more effectively and efficiently – transforming the Coast

Guard into a more ready, aware, and responsive maritime force across its multiple missions. This will be a 21st-century Coast Guard better postured to increase operational readiness, enhance mission performance, and create a safer working environment for our men and women.

BEING READY FOR THE FIGHT

This perspective is reinforced by the Coast Guard’s response to Hurricanes Katrina and Rita during 2005. Platforms modernized as part of the Deepwater Program, including re-engined HH-65C helicopters and cutters outfitted with the first increment of Deepwater command, control, and communication upgrades, supported Coast Guard operations that saved the lives of more than 33,500 people after the deadly hurricanes struck the Gulf Coast. Who is to say when the next catastrophic event – natural or one inflicted by those who wish us harm – might occur?

Earlier this spring, senior officers participating in the nation’s war against illegal drugs stressed the importance of the Deepwater Program’s role in improving their ability to counter increasingly aggressive and well-financed drug smugglers. The Coast Guard, operating closely with both interagency and international partners, compiled another record-setting year in its interdiction of illegal drugs during 2005. The more than 338,000 pounds of cocaine seized in maritime transit zones last year, for example, exceeded the amount cumulatively confiscated from

Opposite: The medium endurance cutter USCGC *Tampa* (WMEC 902) sits high and dry at the Coast Guard Yard Curtis Bay, Baltimore, Md., in 2005 during a nine-month major systems refurbishment as part of the Mission Effectiveness Project (MEP) for 210-foot and 270-foot medium endurance cutters. In addition to the cutter’s refurbishment, the Coast Guard’s Engineering Logistics Center conducted a comprehensive Integrated Logistics Overhaul to correct the cutter’s configuration data and properly align all logistics elements. The MEP, funded by the Deepwater Program, is being managed by the Acquisition Directorate at Coast Guard Headquarters, Washington, D.C.

1994 to 1998, according to Rear Adm. Wayne Justice, director of the Enforcement and Incident Management Directorate at U.S. Coast Guard Headquarters in Washington, D.C.

Such stellar performance cannot be sustained indefinitely without the Deepwater Program's assistance.

"We need to replace the aging surface and air fleets that we are pushing harder, further, and longer each year," Rear Adm. Justice told the House of Representatives Government Reform Subcommittee on Criminal Justice, Drug Policy, and Human Resources in April. "JIATF South [Joint Interagency Task Force South] needs more MPA [maritime patrol aircraft] for long-range detection, and the Coast Guard needs more capable surface and air end-game assets to interdict the smugglers we detect."

Bob Reed, a machinist at Coast Guard Yard Curtis Bay, Baltimore, Md., checks tolerances on a propeller stern strut on the cutter USCGC *Tampa* during a major systems refurbishment in 2005. The Mission Effectiveness Project for 210-foot and 270-foot medium endurance cutters, funded by the Deepwater Program, will eliminate many of the problems associated with the cutter's obsolete and unsupportable equipment — an important element in the Deepwater Program's sustainment of legacy surface assets.



USCG photo by Gordon I. Peterson

DEEPWATER PROGRAM'S AWARD-TERM DECISION ANNOUNCED

The Coast Guard's initial contract for the Integrated Deepwater System was awarded on June 25, 2002, to Integrated Coast Guard Systems (ICGS), a joint venture between Lockheed Martin and Northrop Grumman. The initial contract specified a five-year base period of performance ending in June 2007 with the potential for five additional award terms of up to 60 months each, for a maximum of 30 years.

On May 19, 2006, Rear Adm. Patrick M. Stillman, the program's award-term-determining official and former program executive officer, notified ICGS that the length of Award Term 1 (the first award term) will be for a performance period of 43 months, beginning in June 2007 and ending in January 2011. As a result of this decision, ICGS is assured the sole-source opportunity to respond to the upcoming request for proposal for work expected to be contracted during the first award term. No specific contract dollar value was associated with the announcement.

As Rear Adm. Justice testified to Congress, the Coast Guard will be challenged to sustain record drug seizures if the Deepwater Program's modernization and recapitalization of aging legacy assets do not move forward as planned. "While the good news is that we finally have more actionable intelligence to which to respond," Rear Adm. Justice said, "the bad news is that, despite our best efforts, current resources cannot provide enough aircraft and surface assets to respond to all of the actionable intelligence cuing."

In the view of Rear Adm. Justice and others, the Deepwater Program's more capable cutters, aircraft, and sensors will support the need to have a more "robust end-game capability" through the maritime transit zone used by drug smugglers to deliver their deadly contraband to U.S. shores. "I ask you to support our interagency efforts and the Coast Guard's Deepwater Program to ensure we are ready for the fight," Justice said to the subcommittee.

A CRITICAL INVESTMENT

Building on strong budget support in recent years, the president's Deepwater FY07 budget request will contribute directly to the Coast Guard's ability to secure U.S. maritime borders, to implement the National Strategy for Maritime Security and the Coast Guard's new Maritime Sentinel strategic plan to combat maritime terrorism, and to achieve National Fleet Policy objectives calling for increased collaboration with the U.S. Navy.



Above and right: The Deepwater Program's first National Security Cutter, the *Bertholf*, was approximately 50 percent completed by summer 2006 during construction at Northrop Grumman Ship Systems yard in Pascagoula, Miss.



Photos courtesy of NGSS

The FY07 budget request will fund activities across the Deepwater Program. Notably, for surface assets, it provides for the procurement of long-lead materials and the start of construction of the fourth National Security Cutter (NSC), support of the Mission Effectiveness Project's (MEP) refurbishment of medium endurance cutters, and production of one Long Range Interceptor (LRI, 36-foot small boat) and one Short Range Prosecutor (SRP, 24-foot small boat).

Funding for surface and air asset follow-on support in the operating-expense category also is provided, including operation of the first NSC (now scheduled for launching this year and delivery in 2007) and a pre-commissioning detachment for the second NSC; personnel, equipment, training, and flight hours for 29 helicopters outfitted for airborne use of force; and maintenance support for SIPRNET (Secret Internet Protocol Router Network) capability on Deepwater cutters to allow for transmission and reception of classified intelligence and information.

Deepwater aviation platforms, representing a \$4.4-billion segment of the program's total projected cost of \$24 billion, also are earmarked for progressive modernization, conversion, and recapitalization. The FY07 budget request provides funding for

avionics modernization and surface-search radar replacement for 16 HC-130H long-range search aircraft and missionization, and fleet introduction of six HC-130J aircraft in FY08. Work to missionize the more capable HC-130J aircraft, launched with a contract award in 2005, is proceeding on budget and schedule.

The president's budget also funds procurement and missionization of the fifth medium-range surveillance CASA CN-235 300M maritime patrol aircraft (MPA) and provides funding for logistics to make air stations operational using the new MPAs. Lockheed Martin and aircraft maker EADS CASA rolled out the first CN-235A production airframe in March at its production plant near Seville, Spain. Produced in Spain with



The Coast Guard awarded a Deepwater Program contract in 2005 to missionize six HC-130J aircraft to deliver more capable fixed-wing platforms to meet post-9/11 missions. The aircraft, shown here over the Wright Brothers Memorial at Kitty Hawk, N.C., will provide improved surveillance capabilities and organic heavy air transport for the Coast Guard's Maritime Safety & Security Teams, Port Security Units, and the National Strike Force.

more than 50-percent U.S. components (including avionics, propulsion, and integrated subsystems), the CN-235A is the first new aircraft developed for the Coast Guard under the Deepwater Program contract with Integrated Coast Guard Systems.

For rotary-wing aircraft, conversion projects for the HH-60 helicopter will upgrade its avionics and extend its service life as a multimission platform. The budget request also provides for HH-65 conversions and sustainment to complete the first phase of the Multimission Cutter Helicopter (MCH) conversion of all 95 HH-65s in the fleet. At the end of May 2006, 37 re-engined HH-65C aircraft had been delivered to the Coast Guard, with 27 additional conversions under way. Funding to arm two HH-60 and 34 HH-65 helicopters also is included for armory, weapons, gun mounts, ammunition, and aircraft modifications.

The FY07 budget request's investments in C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) will provide needed capabilities for a more aware Coast Guard, including detailed design and development of the Common Operating Picture (COP) and other improvements.

The fully implemented C4ISR system will be integrated with Deepwater cutters, aircraft, and shore facilities with common software, systems, and components. This system, when combined with other Coast Guard command-and-control upgrades, will improve interoperability, enhance situational awareness, and enable new levels of Maritime Domain Awareness.

The FY07 budget request also provides for continued development of Deepwater's Logistics Information Management System and upgrades to facilities that will house new assets. This funding will ensure that Deepwater assets delivered to the Coast Guard have the necessary logistics and maintenance support to meet operational responsibilities.

I have always had a rich appreciation for the critical role that integrated logistics will play in Deepwater in the Coast Guard's operational success. It is not sufficient just to ensure Deepwater platforms are ready to perform missions when they arrive on station; the imperative is to ensure they remain that way for the duration of their operational assignments. If we execute our master logistics plan properly, Coast Guard personnel will have ready assets and systems when they are needed. That is our goal.

Clearly, the FY07 budget requested by the president for the Deepwater Program will advance its multiple acquisitions in many important dimensions. It is a critical investment in the Coast Guard's future capability and capacity – one that will go a long way to enable the Deepwater Program to add to its impressive list of program milestones over the past year and sustain momentum as it moves forward.

STEADY PROGRESS

Deepwater is beginning to make important contributions where it matters most – in U.S. ports, waterways, and coastal areas – and at sea where modernized legacy assets are critically needed to sustain the Coast Guard's operational performance and protect the nation's maritime borders until the time that new or converted Deepwater assets enter service.

During the past year, for example, initial C4ISR upgrades were completed on all 39 legacy cutters. The Coast Guard is commencing phase two of its progressive modernization upgrades to increase intelligence-data communications to enable improved underway intercepts and interdictions. Classified communication equipment installations also were completed at Atlantic and Pacific Command Master Stations, and the program's first phase was completed at District Seven's Operation Center.

Improvements to operational performance and maritime domain awareness are already being realized as the result of the upgrades. Last year, for example, a legacy cutter received a "Statement of No Objection" (SNO) in just six minutes to board foreign-flagged vessels suspected of illegal activities. Prior to receiving its Deepwater C4ISR upgrades, 24 or more hours could have elapsed before the cutter received its time-critical SNO.

Cutter crews also report that SIPRNET access has greatly increased their ability to communicate in the classified environment. One cutter commanding officer asserted that Deepwater C4ISR upgrades to his legacy cutter had revolutionized his crew's way of doing business. This outlook highlights an important aspect of the Coast guard's acquisition strategy for the Deepwater Program – balancing the modernization of legacy assets destined to remain in the Coast Guard's inventory for a number of years as the service designs, builds, and delivers the new platforms slated to replace them.

NATIONAL SECURITY CUTTER ROTATIONAL CREWING CONCEPT APPROVED

By PAC Jeffrey Murphy, Integrated Deepwater System

"I got my orders!" exclaimed Petty Officer First Class Travis Forfinski, an operations specialist aboard the cutter USCGC *Resolute* (WMEC 620). "I am excited to be selected for the first National Security Cutter."

The excitement was palpable in the inaugural crew when detailers recently issued 50 orders to Maritime Security Cutter Large (WMSL) Crew Alpha - Alameda, Calif. WMSL Crew Alpha will be the crew that shepherds the first National Security Cutter (NSC), the *Bertholf* (WMSL 750), from pre-commissioning activities through its initial operational patrols. The billets are on the 2006 shopping list, and U.S. Coast Guard Headquarters staffs are updating the Staffing Standards to include the newest cutter crew personnel requirements.

With the stand-up of Crew Alpha and the delivery of the *Bertholf*, the Coast Guard will introduce the concept of multi-crew rotation for major cutters, a formidable paradigm shift in

cutter crewing. The vice commandant of the Coast Guard signed a decision memorandum in February 2006 to approve the Crew Rotation Concept (CRC) as the means of maximizing cutters' time at sea while sustaining an acceptable personnel tempo (PERSTEMPO) for cutter crews. Various directorates at Coast Guard Headquarters have been tackling numerous policy issues such as sea pay and housing affected by CRC to ensure they are responsive to the new NSC crewmembers.

Initially, the Coast Guard will employ four crews for three NSCs at a single homeport, rotating the cutters among the crews to limit crew PERSTEMPO to 185 days while maintaining each cutter's operational tempo (OPTEMPO) at 230 days. The three-cutter, four-crew prototype will be evaluated in 2009 through an operational testing-and-evaluation process. Policy and procedures for CRC are based on the lessons learned by the Coast Guard and the U.S. Navy, as well as consideration of the



The first National Security Cutter (NSC 1) fabrication unit to be lifted into place since Hurricane Katrina swept through the Gulf Coast region is pictured here at Northrop Grumman's Pascagoula, Miss., shipyard on Oct. 17, 2005. The National Security Cutter is being developed by Integrated Coast Guard Systems, a joint venture between Northrop Grumman and Lockheed Martin. It is designed to be the flagship of the Deepwater fleet, capable of meeting all maritime security mission requirements of the U.S. Coast Guard. It will be the largest and most technically advanced class of cutter in the Coast Guard. Construction of the NSC 1 began in September 2004 at Northrop Grumman's Ship Systems sector in Pascagoula, and the ship is expected to be delivered to the Coast Guard in 2008. Eight of these ships are planned to be built for the Coast Guard's fleet by 2017.

recommendations made by auditors from the Government Accountability Office.

"For the entire history of the Coast Guard, if you think about it, we have assigned crews to ships," said Rear Adm. Ken Venuto, assistant commandant for human resources. "In a way, this gave the impression that the ship is the most important contributor to mission performance, and people are there to support it. I think we know better than that today; people perform the Coast Guard's missions, and their assets are there to support them. In my view, the Crew Rotation Concept is a model that assigns ships to crews instead of crews to ships. And it's about time."

With an operational crew size of 108, including officers and enlisted personnel, orders have been or are being issued for the first 65 crewmembers, including several pre-commissioning billets that were filled last year – the engineering officer, the main propulsion assistant, and other key engineering billets. In addition to the operational crew, detachments round out the deployed crew to optimize the cutter's mission capabilities. These detachments include maintenance personnel for two embarked Eagle Eye vertical-takeoff-and-landing unmanned aerial vehicles, a five-person aviation detachment during helicopter embarkations, a six-person Command Task Unit detachment (when required), and, for out-of-hemisphere deployments, an 11-person detachment to provide continuous condition III watchstanding capacity.

Coast Guard Headquarters announced the crew's prospective commanding officer as Capt. Patrick Stadt, the sponsor's representative for the Integrated Deepwater System in the Response Directorate at U.S. Coast Guard Headquarters, and executive officer Cmdr. Kelly Hatfield, Chief Response Enforcement Branch, District 11.

As hull construction progresses, a Primary Crew Assembly Facility (PCAF) will ensure that all pre-commission crews are ready to accept the ship. Approximately 65 new crewmembers will report to Alameda by August. The remaining 43 members of the crew will report to Pascagoula, Miss., three months prior to delivery of WMSL 750, to begin WMSL cutter familiarization training.

This summer, the initial Gulf Coast PCAF staff will report to Pascagoula, where they will provide on-site training, logistics, and administrative support to the crews that will take delivery of NSCs and, eventually, Fast Response Cutters (FRCs). The PCAF will provide these same services when Fast Response Cutter crews report to Gulfport, Miss., for cutter delivery in several years. The PCAF building is located at Northrop Grumman Shipyard Pascagoula. Coast Guard Headquarters personnel selected Cmdr. Kelly Kachele, Maintenance and Logistics Command Pacific, to lead the PCAF team as prospective commanding officer.

To facilitate introduction of Deepwater assets at Alameda, an initial staff of seven is expected to be assigned to a Deepwater Shore Support Unit there in the summer of 2007 prior to the *Bertholf's* arrival. The permanent support building on Coast Guard Island should open in late 2008, prior to the arrival of WMSL 751.

"The Crew Rotation Concept is the preferred crewing concept utilized for both the NSC and OPC to meet the required OPTEMPO without violating the mandated PERSTEMPO," said Lt. j.g. Justin M. Lian, a member of the Human Resources Deepwater Workforce Modeling and Simulation staff at Coast Guard Headquarters.

Coast Guard Area staffs will assign cutters to crews based on cutter availability, crew PERSTEMPO, and operational demands. A crew will typically have a six- to nine-month tour and will conduct both underway and in-port periods until PERSTEMPO requires a crew swapout.

Hypothetically, Crew Bravo would move from an "off-cycle" status to relieve Crew Delta. Crew Delta would turn over the cutter to Crew Bravo after ensuring they are ready to take the cutter on the next patrol. They then would move to an "off-cycle" status, providing opportunities to focus on "crew maintenance," including leave, team training, and a limited capacity to perform maintenance support for cutters in port.

The exact doctrine and policy for the CRC turnover will be fully developed prior to the first crew swapout by a working group composed of representatives from various directorates at Coast Guard Headquarters and staff assigned to Area Commanders, Maintenance and Logistics Command, and "plank owners" from the first crews that will operate the NSCs.

At any given time, one crew will have full responsibility for cutter operations and maintenance, underway and in port. Although none of the crews will permanently "own" a specific hull, a crew will operate and maintain its assigned cutter until such time that they are swapped out to maintain the crew PERSTEMPO cap. For periods when crews rotate off a cutter, they are considered "off cycle." The actual rotation cycle will vary from port to port and year to year based on the crew and cutter allocations as well as operational demands.

Once the first NSC successfully completes acceptance trials, Crew Alpha will then conduct limited ready-for-sea activities to ensure the ship may depart the Gulf region for its homeport early in 2009.

Coast Guard officials say the Crew Rotation Concept is a significant departure from traditional policies for cutter crewing, but it will maximize the use of the more-capable cutters while providing a balanced work life to the men and women charged to operate them.



The Deepwater Program's progressive modernization and recapitalization of the Coast Guard's aging legacy assets will enable more effective implementation of the National Fleet Policy calling for complementary and more highly interoperable Navy and Coast Guard assets and systems. Here, the Coast Guard Cutter *Wrangell* moves past the nuclear-powered aircraft carrier *USS Ronald Reagan* during operation in the Persian Gulf in 2006.

As Adm. Thad Allen, the Coast Guard's new commandant, testified to Congress in March, "This long-term plan requires a fine balance between removing legacy assets from service to realize system cost savings while maintaining sufficient system capacity so as not to exacerbate current operational gaps."

Those of us affiliated with the Deepwater Program are very mindful of these operational gaps – the shortfall, for example, in near-term operational hours followed by the long-term gains in operational capability and capacity as new Deepwater assets enter service in greater numbers.

DELIVERING ASSETS

Coast Guard leaders are fond of saying that the Deepwater Program is not a sprint; it is a marathon. As in any enterprise comparable to the challenge of running a marathon, there will be peaks and valleys; the course does not always run downhill! Deepwater has encountered its share of technical challenges during the early years of program execution, but as a learning organization it also has benefited from this experience and has actively applied the lessons learned to improve processes and program management.



An HH-65C helicopter from Air Station Atlantic City, N.J., flies low over the Atlantic Ocean. The improved HH-65 helicopters are being re-engined and upgraded as part of the Coast Guard's Deepwater Program.

Certainly, looking back over the past four years, the service owes a debt of gratitude to those Deepwater plank owners who initiated, developed, and sustained the program since its inception. The Coast Guard is fortunate to have broad-based support – across the executive branch, in Congress, and with the public – to provide it with the more capable and interoperable platforms and systems it needs in today's dangerous world. Deepwater's performance-based, system-of-systems architecture – carefully focused on improving operational performance at an affordable cost – is the right approach.

That emphasis will continue as the Coast Guard works hard with its industry partners to strike the necessary balance between schedule, cost, and performance in the complex Deepwater acquisition. At the same time, however, the Coast Guard must redouble its efforts to deliver assets to the fleet to support the Deepwater system's net-centric plan. Deepwater is not an asset-for-asset replacement program by any stretch of the imagination, but the Coast Guard must focus on those near-term opportunities to build its platforms, install C4ISR systems, integrate net-centric capabilities, and advance the program with due diligence and the necessary sense of urgency it deserves.

This level of effort will hasten the day when the Deepwater Program achieves its goals for enabling the Coast Guard's transition to a more ready, aware, and responsive force.

Rear Adm. Blore is the Program Executive Officer, Integrated Deepwater System.